

Spot Safety Project Evaluation

Project Information

Order ID: 41000030296

Project ID: 02-07-203

Location: US 70 (Arendell Street) at SR 1749 -1182 SB Couplet (24th Street).

County: Carteret

City: Morehead City

Division: 2

Signal ID: 02-0251

Countermeasure: Widen the railroad crossing for an additional lane from southbound SR 1749 (24th Street) onto Atlantic Beach Causeway and revise existing traffic signal.

Project Completion: August 10, 2010

Project Cost: \$21,500

Map and Aerial (from Google Maps, Google coordinates are -- 34.723176,-76.735416)



Naive Before and After Analysis

Before Period: March 1, 2006 through April 30, 2010 (4 years. 2 months)

Const. Period: May 1, 2010 through August 31, 2010

After Period: September 1, 2010 through October 31, 2014 (4 years, 2 months)

Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the US 70 and SR 1749 and SR 1182 SB Couplet approaches, as well as the slip ramp to SR 1182 SB Couplet.

Target Crashes: Rear End and Sideswipe crashes along SR 1749.

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	33	31	- 6.1 %
Total Severity Index	3.69	8.75	+ 137.1 %
Target Crashes	1	2	+ 100.0 %
Target Crash Severity Index	1.0	4.7	+ 370.0 %
Volume (2008, 2012)	28,800	27,700	- 3.8 %

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	0	0	N/A
Class A injury Crashes	0	2	+ 200.0 %
Class B injury Crashes	1	2	+ 100.0 %
Class C Injury Crashes	11	10	- 9.1 %
Property Damage Only	21	17	- 19.0 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
SB Rear End Crashes (Target)	1	2	+ 100.0 %
SB - WB Angle Crashes	15	13	- 13.3 %
SB – EB Angle Crashes	5	4	- 20.0 %

Overall Summary Results

Total Crashes:	- 6 %	(reduction)
Total Crash Severity:	+ 137 %	(reduction)
Target Crashes:	+ 100 %	(increase)
Target Crash Severity:	+ 370 %	(increase)
Volume:	- 4 %	(reduction)

Additional Summary Results

SB Rear End Crashes (Target):	+ 100 %	(increase)
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Items for Discussion/Concerns

Target rear end crashes on southbound SR 1749 (24th Street) increased by 1 crash in the after period.

Severity for the intersection overall, increased in the after period. However, angle crashes for both Southbound-Eastbound and Southbound –Westbound decreased in the after period.

Data Prepared For

The Traffic Safety Unit *of the*
Transportation Mobility and Safety Division *of the*
Division of Highways *of the*
North Carolina Department of Transportation

Data Prepared By

Principal Investigator: Elizabeth Scott, EI
Work Group/Consultant: Stantec Consulting Services Inc.
Date: December 13, 2014

SS# 02-07-203
Order#41000030296
Carteret County
Before Period
3/1/2006 - 4/30/2010

LEGEND

→

MOVING VEHICLE

⊠

PARKED VEHICLE

⊠

PARKING VEHICLE

→

MOVABLE OBJECT

→

HEAD ON

→

REAR END

→

RAN OFF ROAD

→

DAYLIGHT CRASH

→

NIGHT CRASH

→

ANGLE

→

TURNING

→

BACKING

→

SIDESWIPE

→

INJURY

→

FATALITY

→

9 MPH OR LESS

→

10 MPH TO 19

→

20 MPH TO 29

→

30 MPH TO 39

→

40 MPH TO 49

→

50 MPH TO 59

→

60 MPH TO 69

→

70 AND UP

→

SPEED UNKNOWN

A

ANIMAL

P

PEDESTRIAN

B

BICYCLE

T

TRAIN

*

DRIVER AT FAULT

D

DRY

W

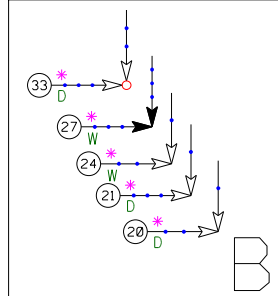
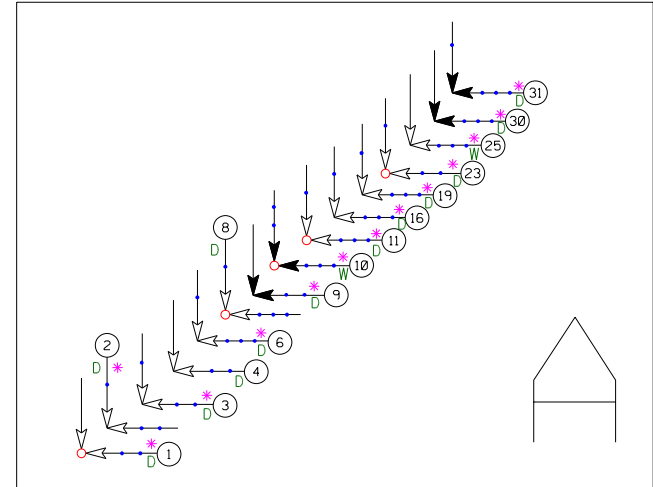
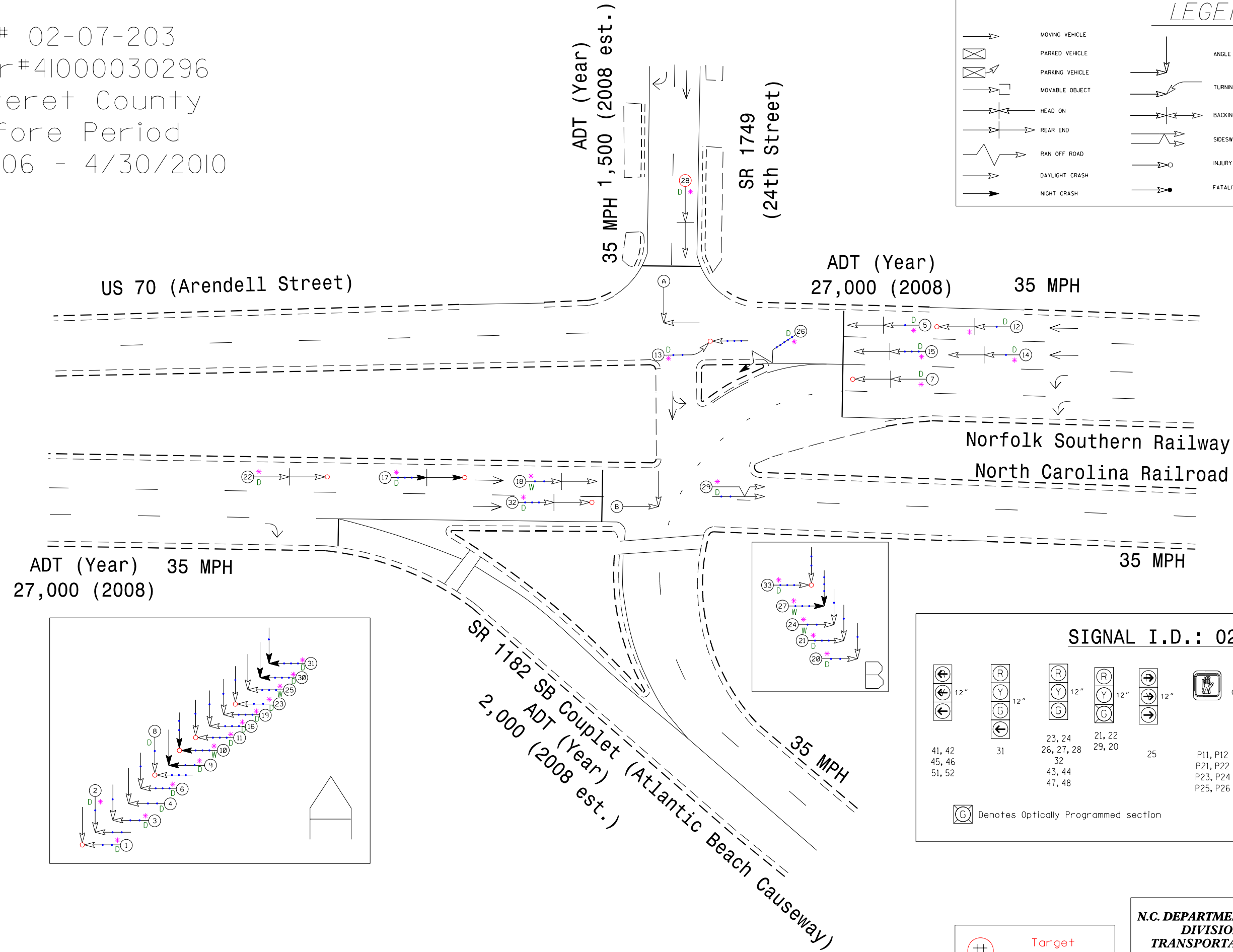
WET

I

ICY OR SNOWY

O

Other



SIGNAL I.D.: 02-0251

12"

41, 42
45, 46
51, 52

12"

31

12"

23, 24
26, 27, 28
32
43, 44
47, 48

12"

21, 22
29, 20

12"

25

12" (LED)

P11, P12
P21, P22
P23, P24
P25, P26

25

P12

24

P23

32

31

28

52

51

G

Denotes Optically Programmed section

Target Crashes

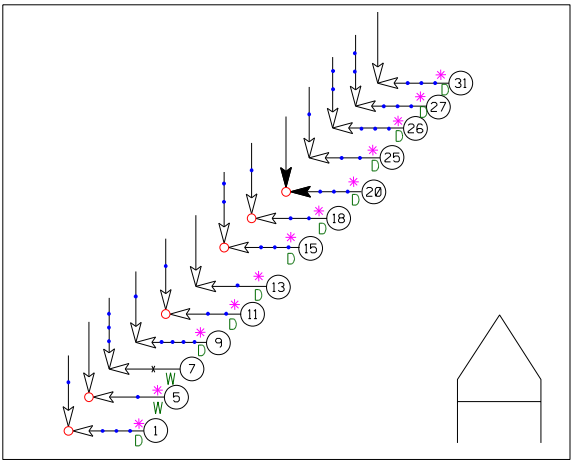
N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
TRANSPORTATION MOBILITY and
SAFETY DIVISION

Date: 12/13/2014

Prepared By: ESS

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SS# 02-07-203
Order#41000030296
Carteret County
After Period
9/1/2010 - 10/31/2014



ADT (Year)
35 MPH 1,450 (2012 est.)

SR 1749
(24th Street)



LEGEND			
	MOVING VEHICLE		ANGLE
	PARKED VEHICLE		TURNING
	PARKING VEHICLE		BACKING
	MOVABLE OBJECT		SIDESWIPE
	HEAD ON		INJURY
	REAR END		FATALITY
	RAN OFF ROAD		9 MPH OR LESS
	DAYLIGHT CRASH		10 MPH TO 19
	NIGHT CRASH		20 MPH TO 29
			30 MPH TO 39
			40 MPH TO 49
			50 MPH TO 59
			60 MPH TO 69
			70 AND UP
			SPEED UNKNOWN
			A ANIMAL
			P PEDESTRIAN
			B BICYCLE
			T TRAIN
			* DRIVER AT FAULT
			D DRY
			W WET
			I ICY OR SNOWY
			O Other

US 70 (Arendell Street)

ADT (Year)
26,000 (2012) 35 MPH

Norfolk Southern Railway
North Carolina Railroad

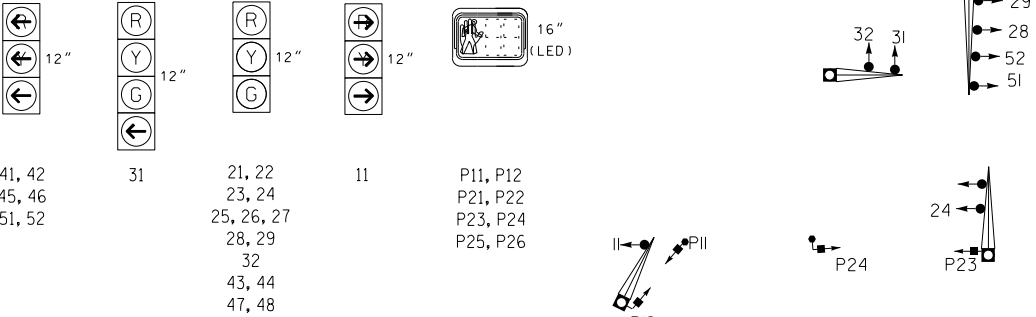
35 MPH

ADT (Year) 35 MPH
26,000 (2012)

SR 1182 SB Couplet (Atlantic Beach Causeway)
ADT (Year)
1,900 (2012 est.)

35 MPH

SIGNAL I.D.: 02-0251



Target
Crashes

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DIVISION of HIGHWAYS
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